



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,269	09/26/2005	Ik-Soon Jang	20050-00002	5704

7590 05/29/2008
Joseph Hyosuk Kim
JHK Law
P O Box 1078
La Canada, CA 91012-1078

EXAMINER

SHEN, BIN

ART UNIT	PAPER NUMBER
----------	--------------

1657

MAIL DATE	DELIVERY MODE
-----------	---------------

05/29/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/517,269	Applicant(s) JANG ET AL.	
	Examiner BIN SHEN	Art Unit 1657	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4,6,8-15 and 23-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4,6,8-15 and 23-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/21/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 4, 9, 14, 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Chiang et al. (The J of Clin. Endo. & Metabolism 2000;85(10):3828-3839).

Chiang teaches a method for modulating senescent human cell (granulose-luteal cells, see title and abstract) by administering an effective amount of an inhibitor of adenylate cyclase (page 3831, right column, 1st full paragraph, and page 3833, Fig. 6), an inhibitor of protein kinase A (page 3831, right column, 1st full paragraph), an inhibitor of protein kinase C (page 3831, right column, 1st full paragraph).

Therefore, the cited reference is deemed to anticipate the instant claims above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at

Art Unit: 1657

the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4, 6, 8-15, 23-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Chiang in view of Chaves et al. (Gerontology 2002;48:354-359).

Chiang teaches what is above.

Chiang does not teach that the human cell is fibroblast, and the specific inhibitors in claims 10-13, 24-27.

Chaves teaches a correlation between PKC activity and aging (see title, abstract and Table 3 on page 358).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the method of Chiang to modulate cellular senescence in human fibroblast because Chaves teaches a correlation between PKC inhibition and aging (page 358, right column, 2nd full paragraph). One would have been motivated to make the modification because it is important to understand and modulate the aging process (Chaves, page 359, right column, lines 1-2) and Chiang et al. specifically described the effects of protein kinase A/C inhibitors and adenylate cyclase inhibitors on human cells and Chaves correlates protein kinase C activity with aging, and would reasonably have expected success in view of both Chiang and Chaves's teachings. The choice of particular type of human cell, particular compound as inhibitors (e.g., claimed in claims 10-13, 24-27) is deemed merely a matter of judicious selection and routine optimization which is well within the purview of the skilled artisan having the cited reference before him/her.

From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable

expectation of success in producing the claimed invention. Therefore, the invention as a whole was *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

Applicant's arguments filed 3/26/2008 have been fully considered but they are not persuasive.

Applicant argues that Chiang does not report a method that "modulates cellular senescence in the patient".

It is the examiner's position that "modulates cellular senescence in the patient" is the inherent use of the methods, and Chiang teaches all the steps in the method (e.g., administering an effective amount of an inhibitor of adenylate cyclase (page 3831, right column, 1st full paragraph, and page 3833, Fig. 6), an inhibitor of protein kinase A (page 3831, right column, 1st full paragraph), an inhibitor of protein kinase C (page 3831, right column, 1st full paragraph).

Applicant's arguments filed 3/26/2008 have been fully considered but they are not persuasive.

Applicant argues that Chiang does not report the administration of an "effective amount" of inhibitor.

It is the examiner's position that no specific effective amount is claimed for particular degree of modulation, thus any amount with any effect will meet the limitation of the claim.

Applicant's arguments filed 3/26/2008 have been fully considered but they are not persuasive.

Applicant argues that cells reported by Chiang are not "senescent" cells.

It is the examiner's position that no specific definition of senescent cells in the specification was found that can rule out the cells reported by Chiang, thus the cells reported by Chiang read on as senescent/near senescent cells as all cells age and are necessarily senescing even during the measurement.

Applicant's arguments filed 3/26/2008 have been fully considered but they are not persuasive.

Applicant argues that Chaves does not report a correlation between PKC activity and cellular senescence.

It is the examiner's position that Chaves does show age-dependent inhibition of PKC, because aging involves cellular senescence inherently.

Conclusion

No claim is allowed.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

Art Unit: 1657

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Certain papers related to this application may be submitted to Art Unit 1657 by facsimile transmission. The faxing of such papers must conform with the notices published in the Official Gazette, 1156 OG 61 (November 16, 1993) and 1157 OG 94 (December 28, 1993) (see 37 C.F.R. § 1.6(d)). The official fax telephone number for the Group is 571-273-8300. NOTE: If Applicant *does* submit a paper by fax, the original signed copy should be retained by applicant or applicant's representative. NO DUPLICATE COPIES SHOULD BE SUBMITTED so as to avoid the processing of duplicate papers in the Office.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the

Art Unit: 1657

problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.

Any inquiry concerning rejections or objections in this communication or earlier communications from the examiner should be directed to Bin Shen, Ph.D., whose telephone number is (571) 272-9040. The examiner can normally be reached on Monday through Friday, from about 9:00 AM to about 5:30 PM. A phone message left at this number will be responded to as soon as possible (i.e., shortly after the examiner returns to her office).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Jon Weber can be reached at (571) 272-0925.

B Shen

Art Unit 1657

/JON P WEBER/

Supervisory Patent Examiner, Art Unit 1657